

REMARKS

Reconsideration of the present application is respectfully requested. Claims 5, 11 and 21 have been cancelled and claims 1, 6, 9, 14, 22 and 23 have been amended. Further, new claims 25 and 26 have been presented.

Claims 11, 12 and 21 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 11 and 21 have been cancelled. In regards to the §112, second paragraph rejection of claim 12 the Applicants respectfully disagree that the claim is vague and indefinite. Reconsideration and withdrawal of the §112, second paragraph rejection of claim 12 is respectfully requested.

Claims 1-4, 11-18, and 22 are rejected under 35 U.S.C. §102 as being anticipated by U. S. Patent No. 6,314,933 to Iijima. The Applicants respectfully traverse the §102 rejection of claim 1 as amended. The law is well settled that the Commissioner, through the Examiner, bears the initial duty of supplying the factual basis supporting a rejection of a patent application, including a rejection under 35 U.S.C. § 102. *See, In re Warner* 154 USPQ 173, 177 (C.C.P.A 1967). Not only does a rejection founded under 35 U.S.C. § 102 “require[s] the disclosure in a single prior art reference of each element of the claim under consideration” (*See, W.L. Gore and Assocs. Inc. v. Garlock*, 220 USPQ 303, 313 (Fed. Cir. 1983)) but it further requires that “each and every element of the claimed invention, [must be] arranged as in the claim.” *See, Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). “The identical

invention must be shown in as complete detail as contained in the . . . claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Upon review of the ‘933 reference to Ijima there is not disclosed a piston including a sharp edge at the first end of the piston and a substantially rounded lip spaced axially from the sharp edge and an upwardly flared portion located between said sharp edge and said substantially rounded lip. With reference to Fig. 1 the text of the ‘933 reference describes that the piston 10 includes a combustion chamber 11 with a wall having a large radius 17. The reference further discloses for the embodiment of Fig. 1, that an “edge portion does not exist, and the thermal stress concentration decreases, so that stress imparted to the combustion chamber 11 can be reduced.” Col. 6, l. 62-64. The piston set forth in Fig. 1 of the ‘933 reference does not include a piston having a sharp edge at the first end of the piston and a substantially rounded lip spaced axially from the sharp edge and an upwardly flared portion located between said sharp edge and said substantially rounded lip.

In reviewing the ‘933 reference the reader must fully consider the disclosure related to Fig. 2. The application describes the left half of the figure as being a comparative example and the right half as being the embodiment of Fig. 1. The left half of the figure includes an inner circumferential surface 14 and a top surface 15 formed of an edge. The edge is said to “prevent the fuel from flowing into the squished area 32, so that the air in the squished area 32 cannot be effectively utilized.” Col. 7, l. 28-31. The embodiment of the left half of the figure does not include a sharp edge at the first end of the piston and a substantially rounded lip spaced axially from the sharp edge and an upwardly flared portion located between said sharp edge and said substantially rounded lip. The right half

of the figure represents the embodiment of Fig. 1 and therefore should also not disclose the sharp edge at the first end of the piston and a substantially rounded lip spaced axially from the sharp edge. Applicants acknowledge that the illustration in the right half of Fig. 2 does not match up with the embodiment of Fig. 1. Nonetheless, Fig. 2 does not include a sharp edge at the first end of the piston and a substantially rounded lip spaced axially from the sharp edge and an upwardly flared portion located between said sharp edge and said substantially rounded lip. Withdrawal of the §102 rejection of claim 1 is respectfully requested.

Independent claim 14, as amended, includes a rounded portion for receiving a fuel thereon within said combustion bowl and the rounded portion overhangs a portion of the combustion bowl. Upon review of the '933 reference there should be readily noted that the rounded portion 17 does not overhang a portion of the combustion bowl 11. Withdrawal of the §102 rejection of claim 14 is respectfully requested.

Independent claim 22 includes fuel directing means at said entrance for directing a fuel leaving said combustion bowl away from said first end and fuel receiving means for receiving a fuel within said combustion bowl and a flared portion between said fuel directing means and said fuel receiving means. The law is well settled that the Patent Office in Examining means plus function limitations must look to the Applicants specification in order to properly define the structure during examination. Upon review of the '933 specification there is not disclosed fuel directing means at said entrance for directing a fuel leaving said combustion bowl away from said first end and fuel receiving means for receiving a fuel within said combustion bowl and a flared portion between said

fuel directing means and said fuel receiving means. Withdrawal of the §102 rejection of claim 22 is respectfully requested.

Claims 1-24 are rejected under 35 U.S.C. §102(e) as being anticipated by U. S. Patent No. 6,491,013 to Gaiser. Further, claims 1-24 are rejected under 35 U.S.C. §102(e) as being anticipated by U. S. Patent No. 6,539,910 to Gaiser. Upon review of the two references they appear to have the same drawings and detailed description. Therefore the response will refer to the two references collectively as Gaiser. Upon review of Gaiser there is not disclosed a sharp edge at the entrance to the combustion bowl. There is no text supporting having a sharp edge at the entrance and the drawings, such as Fig. 4 do not support the conclusion that there is a sharp edge. In review of the drawings the feature is not called out and the structure appears to teach away from a sharp edge. Withdrawal of the §102 rejection of independent claims 1, 14 and 22 is respectfully requested.

Dependent claims 2-4, 6-10, 12, 13, 15 – 21 and 23-24 are believed at least allowable over the cited art as they depend from independent claims that are believed allowable.

In view of the foregoing, it is submitted that this application is in condition for allowance. Consideration of an allowance at an early date is respectfully requested. The Examiner is encouraged to contact the undersigned by telephone to resolve any outstanding matters concerning this application.

Respectfully submitted,



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